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Animal Abuse and Exposure to Interparental Violence in Italian Youth

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Abuse against animals is an indicator of children's maladjustment associated with domestic violence. This study empirically assesses the effects of exposure to interparental violence on animal abuse in 1,392 Italian youth aged 9 to 17. Results indicate that half of all youth ever abused animals, with boys more often involved than girls. Almost half of the whole sample has been exposed to violence by fathers against mothers or by mothers against fathers, with no gender differences. Results are in line with the social learning theory model, indicating that the strongest predicting variable for animal abuse is exposure to violence against animals by peers and by mothers. The only-exposed group is more negatively affected by parental violence against the animal; the abuse-exposed group is more negatively influenced by mothers' violence against animals and fathers. Results are critically discussed with a focus on plausible intervention strategies.

Keywords: animal abuse; exposure to interparental violence; youth; cycle of violence

Children exposed to domestic violence are at high risk of developing psychological maladjustment, including aggressive behavior or withdrawal, poor school performance, depression, anxiety, psychosomatic symptoms, and even suicidal attempts (Grych, Jouriles, Swank, McDonald, & Norwood, 2000; McCord, 1983; Sternberg et al., 1993).

Thanks to the growing attention at the political and scientific levels, which has shed some light on so-called forgotten victims (Jaffe & Suderman, 1995; Osofsky, 1995), it is now evident that these children are a high-risk group for the development of psychopathology, especially in the presence of multiple stressors (Rutter, 1987) such as exposure to different forms of direct and indirect violence.

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According to the American Psychological Association (1996, p. 57), "Children who witness parental violence have reactions similar to those of children who are direct victims of abuse." Kolbo, Blakely, and Engleman (1996) and subsequently Edleson (1999) reviewed studies on the effects of exposure to interparental violence and concluded that boys are more likely to show externalized problems such as aggression or other forms of antisocial behaviors compared with the nonexposed ones. Cruelty against animals is regarded as a form of acting out, as an antisocial behavioral problem, and as an index of conduct disorder (together with fire setting and vandalism) highly correlated with child abuse (Ascione, 2000).

Girls exposed to domestic violence are more at risk of becoming submissive and exhibiting so-called internalized problems such as depression, withdrawal, and victimization at school (Grych, Fincham, Jouriles, & McDonald, 2000; Mullender & Morley, 1994).

Not all children exposed to domestic violence, however, will have the same problems: The successful "copers" are more resilient and adaptable (Henning, Leitenberg, Coffey, Turner, & Bennet, 1996; Hughes, Graham-Bermann, & Gruber, 2001). Factors moderating the negative impact of exposure to violence include children not also being directly abused, moderate severity of exposure to violence, social support, coping strategies, and a positive attachment to the mother (Edleson, 1999). Lack of protective factors increases the risk of future problems. "A child's exposure to the father abusing the mother is the strongest risk factor for transmitting violent behavior from one generation to the next" (American Psychological Association, 1996, p. 53). According to the review conducted by Widom (1989), up to 70% of violent adults had a history of child abuse (either as direct victims or as witnesses of violence). Retrospective studies with samples of adult offenders have indicated that about 30% of them had lived in violent families; prospective studies indicate that about 15% of children who witness violence or are directly abused become delinquents (Widom, 2000).

Multiple Exposure to Violence

Exposure to violence includes not only direct eyewitnessing of violent events. Children can experience domestic violence in several other ways, including when the abuser hits or threatens the mother while the child is in her arms, when he takes the child hostage to force the mother to return home (Ganley & Schechter, 1996), or when he has visitation access to the child and repeatedly asks him or her about the mother's life such as who she sees, where she goes, what she does (Baldry, 2002a).

Children are exposed to forms of violence occurring not only in the family but also in the community and at school, including violence perpetrated against people and against animals (Marks, Glaser, Glass, & Horne, 2001). Exposure to animal abuse can take the form of the death or harm of pets or other animals by parents, peers, or other adults or seeing animals suffer after a cruel act.

Ascione (1993, 1998) suggested that being exposed to animal cruelty can increase children's risk of developing future externalizing problems, including violence against people and animals. According to social learning theory, violence, like any other form of behavior, is learned from very early in childhood (Bandura, 1973; Reitzel-Jaffe & Wolfe, 2001). Miller and Knutson (1997) studied how animal abuse is associated with other forms of abuse and antisocial behaviors (Arluke, Levin, Luke, & Ascione, 1999); although these authors were not able to fully support the hypothesis of the association between exposure to animal cruelty and child abuse in a sample of incarcerated offenders and undergraduate students in the United States, they found a strong correlation between personal abuse and antisocial behavior. One of the problems with this study, as outlined also by Ascione and Lockwood (2001) and Flynn (1999), is that the authors failed to distinguish different forms of violence against animals, that is, the violence witnessed and that committed. These two behaviors are different but correlated: Exposure to animal abuse (by peers or parents) can be a risk factor for direct animal abuse inflicted by youth. Ascione (1993, 1998, 2001) was among the first researchers who investigated the link between domestic violence and cruelty against animals. He surveyed a sample of 38 women seeking help in a shelter for battered women in northern Utah using his Batter Partner Shelter Survey—Pet Maltreatment Assessment (Ascione, Weber & Wood, 1997). Women were asked about the prevalence of violence against their pets committed by their partners and whether the children witnessed violence against their pets or directly committed cruel acts against them. Results indicated that 71% of the women who had pets said that their partners abused the animals or threatened to do so, and abuse of animals by children was reported in 32% of cases of all battered women. This study was limited in size and representativeness of the sample because respondents were recruited from only one shelter. In a later study based on a larger sample, Ascione (2000) compared animal abuse by partners of women recruited in shelters with those in the community and found that battered women were about three times more likely to report partners' animal abuse compared to community women. Flynn (2000a) reported slightly lower figures: 46.5% of the 44 women in a shelter in South Carolina, who reported having pets, had partners who threatened to harm or harmed the pet. Less evidence was reported for children harming their pets.

Cruelty against animals is perpetrated by abusers as a way to threaten their partners; children, in turn, might be cruel to animals as a symptom of maladjustment but also because they might have learned such behaviors witnessing others doing so in the family or at school (Ascione, 1998). Children are more likely to be cruel to animals when they are with other peers than when alone. "Peer reinforcement for 'showing off' or 'daring' may result in collective cruel acts to an animal that would not occur if the child was alone" (Boat, 1995, p. 230). Watching peers being cruel to animals and abusing them makes children feel more powerful; this reflects their desire to inflict pain and regain a sense of control and power to compensate for their own lack of affection and care at home.

Research on children's cruelty against animals revealed a correlation with corporal punishment (Flynn, 2000b). In the study conducted by Flynn (1999) with a sample of 267 U.S. college undergraduates, it emerged that boys committing animal cruelty were more likely to have suffered corporal punishment (defined as a less severe form of abuse) at the hands of their fathers compared with boys who did not abuse animals regardless of other factors such as father-to-mother violence and severe child abuse. Less is known about the link between animal abuse committed by youth and exposure to violence against people and animals (Ascione, 2001). No studies have been conducted so far to establish the relationship between animal abuse and exposure to violence (domestic and animal) distinguishing between children living with different sets of stresses, such as children who are exposed to interparental violence versus those who are both exposed to and victims of direct parental abuse. According to Edleson (1999), it is important to control for or separate these two groups. Hughes, Parkinson, and Vargo (1989) found that only-exposed children developed fewer behavioral problems compared with those who were victims of both forms of violence. "Observing *and* experiencing aggression in the family is likely to tax the coping capacities of most children, increasing the risk of developing psychopathology" (Grych, Jouriles et al., 2000, p. 91). Flynn (1999) included the measurement of father-to-mother abuse when predicting cruelty against animals, but he did not study only-exposed children as a separate group and did not take into account mother-to-father domestic violence.

Measurement of Exposure to Interparental Violence and Violence Against Animals

Exact figures on children's exposure to violence are difficult to determine. There are no Italian data, so far, on the prevalence of children living with domestic violence; information is limited to shelter-based data (Baldry,

2001). International and national surveys provide more reliable and extensive information. According to the National Children Home Action for Children (1994), more than half of the physical attacks against women take place in front of their children. U.S. estimates of family violence indicate that between 3.3 and 10 million children each year are at risk of exposure to domestic violence (Carlson, 1984; Straus & Gelles, 1990). More recent data based on the 1993 Violence Against Women Survey in Canada found that 39% of women who suffered from domestic violence during their lifetimes reported their children witnessed the attacks (Canadian Centre for Justice Statistics, 2001; Dauvergne & Johnson, 2001). The Finnish International Survey on violence against women indicated similar figures: In 40% of all cases of interparental violence, children had witnessed the violent episodes (Heiskanen & Piispa, 1998).

These estimates are based on parents' accounts only (primarily mothers) and refer mainly to direct eye-witnessed or heard violence, yielding an underestimation of the real proportion of exposure to other forms of covert violence such as emotional or psychological abuse (Salcido Carter, Weithorn, & Behrman, 1999). Parents might wrongly think that their children are not aware of what is going on because they think they are either sleeping or playing during the attacks (Jaffe, Wolfe, & Wilson, 1990). O'Brien, John, Margolin, and Erel (1994) found that 10% of all children in their sample reported physical aggression when both parents claimed that such violence never occurred. In spite of the parents' intention to shield children from exposure to the attacks, children do witness or are aware of interparental violence (Sipe & Hall, 1996).

The same underestimation applies when parents are asked about their children's experience of animal abuse. Offord, Boyle, and Racine (1991) surveyed a nonclinical sample of 1,232 Canadian parents or guardians and their 12- to 16-year-old children. They asked respondents (both parents or guardians and adolescents) to report on a number of conduct disorder symptoms including cruelty against animals. Findings from this study suggest that parents and guardians may seriously underestimate the occurrence of cruel acts against animals, with "boys self-reporting this behavior at 3.8 times the rate of parents/guardians and girls at 7.6 times the parent/guardian rate" (Ascione, 2001, p. 3). The best approach to learn about children's exposure to violence is to directly ask the potential target. Children's accounts are not the perfect source of information, but they provide reliable and accurate information about their own experiences of direct and exposed violence (Grych, Seid, & Fincham, 1992).

When researching these issues, questions should be formulated in a sensitive way. According to O'Brien et al. (1994), "Marital physical violence is a

low base rate event [i.e., does not occur frequently] and the presence of observers often precludes its occurrence, marital physical aggression is difficult to measure through any method other than self-report" (p. 46). For this reason and for ethical committee restrictions, children are rarely asked about any violence to which they are exposed.

In conclusion, the aims of this study were threefold: (a) to estimate the frequency of youth abuse of animals, (b) to estimate the frequency of exposure to domestic violence and animal abuse on the basis of youth's accounts, and (c) to assess the effects of types of domestic violence on the incidence of animal abuse in a nonclinical sample of Italian youth by separating exposed and directly abused children from those who were only exposed.

METHOD

Participants

Participants in the study were 1,396 Italian students (45.9% girls and 54.1% boys) recruited from 13 different schools in the city and province of Rome: four elementary (28.5%), six middle (47.3%), and three high schools (24.1%). The age range varied from 9 to 17 years (mean age = 12.1 years, $SD = 2.6$).

Participants were asked about presence of animals in their homes: 81.9% indicated having at present or having had in the past at least one pet. Of these, 42.8% reported having had more than one: 17.9% reported having a dog, 13.8% one or more fish, 10.3% a cat, 7.2% birds, 4.3% rabbits, 3.4% small turtles, and only two cases reported having exotic animals.

The socioeconomic status of the families (low, medium, or high) was ascertained according to parents' jobs, house size, number of people living in the house, and the district of residence. Rome is divided into districts, and districts differ in their wealth according to location, type of housing, and population density. According to this criterion, 27.8% of all students came from a low social class, 55% from a middle social class, and 17.1% from a high social class. Of all students, 87.4% had parents living together; in all other remaining cases, parents were divorced.

Three students who did not have both parents because of death were excluded from the analysis; those who reported parents not living together but alive were kept in the analysis because domestic violence might have occurred in families where parents were no longer living together (O'Brien et al., 1994).

Procedure

Schools were randomly chosen to cover most districts in the city and province of Rome. Two schools dropped out and were replaced by two others recruited in the same neighborhood to ensure representativeness. Schools came from three different areas in Rome: central (25.9%), suburb (53%), and province (21.1%). Six classes from each school took part in the study; these were selected with a random extraction procedure to obtain a representative sample. The same number of classes was chosen to have a comparable size of students from each school (approximately $N = 100$).

Once the head of the schools agreed to take part in the study, parents were told about the study and asked to complete a nonconsent form if they did not wish their children to take part in the study. Further clarifications were provided to ensure the anonymity and confidentiality of data collected; only eight parents completed the form, and their children did not participate in the study.

Students were approached in the schools in their own classes by six undergraduate psychology students who previously took part in a 1-day training session conducted by the author. They were trained in ways of collecting data on sensitive issues and of handling difficult cases that might arise. This procedure was adopted so that children who had emotional reactions when reading the sensitive questions on domestic violence would receive appropriate support.

Students were told that the research was about life experiences at school and at home that might not always be happy ones. They were told that when we are happy, we like to tell others about how we feel and what has happened to us. Sometimes sad things also happen to us or to the people we love, and in these cases, it is important to talk to someone we trust and ask for help.

Students were assured of the anonymity and confidentiality of the study and were told that all information provided would be used for research purposes only. They were told that if they did not feel like answering some of the sensitive questions regarding their families, they could leave them out. This method was adopted for ethical reasons to give students who were too emotionally disturbed the opportunity to not recall painful situations. A total of 40 students (corresponding to 2.9% of the total sample) left out most of the questions regarding domestic violence and direct abuse. Although they might have been representing cases of severe abuse, they were excluded from the study and referred to the social worker or to the psychologist of the school; in three of these cases, a mandatory report was issued because of suspicion of abuse.

Students were asked to sit separately to prevent conferring, talking, or helping when filling in the questionnaire. No time limit was imposed, and the average time to complete the questionnaire was half an hour. Questions were read out loud for younger students from elementary schools to be sure they understood their meaning; older students read the questions alone and were helped if needed. To ensure even more confidentiality, students inserted the completed questionnaire into a self-sealing white envelope and then placed it in a box.

Measures

Animal abuse. Youth's animal abuse was measured with the P.E.T. (Physical and Emotional Tormenting Against Animals) Scale (Baldry, 2002b) for preadolescents and adolescents. The scale measures two aspects of animal abuse: (a) direct physical and emotional animal abuse inflicted by youth against animals and (b) exposure to animal abuse committed by peers or adults. The scale consists of nine items, five of which measure direct abuse against the animal (i.e., harming, tormenting, bothering, hitting, and being cruel; example item: "Have you ever been cruel to an animal?") and four of which measure exposure to animal abuse (by the father, mother, peers, or other adults; example item: "Has your father ever harmed an animal, for example by hitting, grabbing, pushing or in any other way causing harm to the animal?").

Respondents were asked to indicate on a 5-point Likert-type scale ranging from 1 (*never*) to 5 (*always*) how often they had been involved in the different behaviors listed or how often they were aware of other people doing it. Principal component analysis confirmed a two-factor solution of the scale: direct animal abuse, explaining 38.1% of the total variance ($\alpha = .84$), and exposure to animal abuse by significant others, explaining 14.1% of the total variance ($\alpha = .67$).

For the purpose of this study, items measuring exposure to animal abuse were kept separate to distinguish the influence of exposure to violence against animals by different others on direct animal abuse.

Exposure to domestic violence. Exposure to domestic violence was measured with a modified version of the Conflict Tactic Scale (Straus, 1979) adapted for youth. The scale consists of 10 items measuring different levels of violence: 5 refer to the father's violence against the mother and 5 to the mother's violence against the father. Types of violence include verbal (name calling), physical (hitting and throwing objects at the person), and emotional

(threatening) as well as a question on harm inflicted by one parent on the other. As indicated by Straus and Gelles (1990), more severe forms of violence, such as threatening with a gun, killing, or sexual violence, were excluded from the scale for ethical reasons and, because the sample was a nonclinical one, considered to report lower levels of extreme forms of violence. Full descriptions of the items are detailed in the Results section. Respondents could answer on a 5-point Likert-type scale ranging from 1 (*never happened*) to 5 (*always happened*). The options provided (*never, hardly ever, sometimes, often, and always*) do not yield exact numbers of violent events (incidence rate), but they can provide prevalence rates differentiated according to the frequency of exposure violence.

To establish the underlying structure of all items, a principal component analysis, with an Oblimin rotation, was conducted revealing two separate dimensions: mother violence against father (or mother-to-father violence; MVF), 46.7% of the total variance, and father violence against the mother (or father-to-mother violence; FVM), 13.1% of the total variance. Items loading on each component were added together ($\alpha = .70$ for MVF and $\alpha = .81$ for FVM).

To measure child abuse, participants were also asked on a 5-point scale (ranging from *never* to *always*) whether their mothers or fathers ever physically hurt them in a way that harmed them.

RESULTS

The first step in the analysis was to provide descriptive results about the prevalence of animal abuse and exposure to violence (domestic and animal).

As with all data on violence, these data are positively skewed, suggesting that respondents can be described as in a normal range. Without examining and addressing the problem of extreme skewedness, it is essential to indicate that these measures are not recommended unconditionally for use with statistical techniques that require at least a moderate normal distribution (Kolbo et al., 1996). Additional steps in the analysis were taken before proceeding to descriptively analyze data to control for any outliers. Extreme cases were already excluded (due to missing values and severe experience with violence), and no further cases were found.

Although all data regarding violence (perpetrated or exposed) were measured on an interval scale, to summarize results, variables were first dichotomized. Respondents were classified as animal abusers or as exposed to interparental violence (separately for each parent) if they checked one or more exposures to that specific violence. The creation of these dichotomized

variables enabled us to separate those respondents who report no experience of interparental violence or animal abuse from those who reported at least one form of violence. The effects of different levels of exposure to violence were differentiated by subsequently using the interval form in the multivariate analyses.

Overall, 50.8% of all youngsters admitted committing at least one type of animal abuse (cruelty, hitting, tormenting, bothering, or harming); of all these animal abuse cases, 66.5% were committed by boys and 33.5% by girls ($\chi^2 = 86.19$, $df = 1$, $p < .00001$). Gender comparisons are presented for each type of animal abuse in Table 1, and they all indicate significant differences, with boys being at least two or three times more likely to commit some kind of animal abuse compared with girls and older boys from high school reporting more involvement than younger boys. Table 1 also reports percentages of boys' and girls' exposure to different acts of interparental violence or animal abuse by each parent, peers, or other adults. Chi-square tests indicated that overall, no significant gender differences occurred with regard to exposure to interparental violence.

Almost half (46.8%) of all youngsters reported that their parents used violence against each other at least once; when referring to more severe forms of violence (physical violence and threats excluding verbal abuse), the percentage dropped to 19.4%. Parental differences indicate that 42.5% of all respondents had fathers who at least once used some form of violence against their mothers and that 37.2% had mothers using violence against their fathers. Regarding more severe forms of physical domestic violence and threats, 15.8% of youth reported physical FVM compared with 11.9%, who reported physical MVF (this difference was statistically significant, $\chi^2 = 358.08$, $df = 1$, $p < .00001$).

Table 2 shows the overlap between FVM and MVF, indicating that of all respondents reporting violence by mothers against fathers, 76.1% also reported father-to-mother violence compared with 8% of cases of MVF in which FVM was not reported.

To compare fathers' and mothers' violence, mean values were compared. Results showed a significant within-subjects effect, indicating that according to children's reports, MVF is significantly more frequent than is FVM (MVF = 1.17 versus FVM = 1.23), $F(1, 1323) = 29.9$, $p < .0001$.

Odds ratios, presented in Table 3, were calculated to measure the strength of the relationship between animal abuse and exposure to different types of violence (domestic and animal). Odds ratios are a useful index to establish the likelihood of one event occurring over another, and unlike χ^2 , they are not affected by the prevalence of the two variables (Fleiss, 1981); rather, they assess whether children with certain characteristics (exposed to domestic

TABLE 1: Percentages of Youngsters Reporting Different Types of Animal Abuse and Exposure to Domestic Violence Between Parents Overall and According to Gender and School-Grade Differences

	<i>All Students (1,356)</i>	<i>Gender</i>		$\chi^2_{(1)}$	<i>School Grade</i>			$\chi^2_{(2)}$
		<i>Girls (622)</i>	<i>Boys (734)</i>		<i>Elementary (385)</i>	<i>Middle (644)</i>	<i>High (327)</i>	
Animal abuse direct and exposed (P.E.T. Scale)								
Child bothering animals	34.8	20.6	46.8	101.08***	24.4	36.9	42.3	28.31***
Child tormenting animals	30.3	21.9	37.5	38.38***	28.1	29.6	34.4	3.77
Child harming animals	19.5	7.4	29.7	105.34***	11.9	20.2	27.1	27.17***
Child cruel to animals	14.8	7.8	20.7	44.82***	11.0	14.8	20.7	17.28**
Child hitting animals	13.9	9.0	18.0	22.52***	10.4	13.8	18.6	10.20***
Father harming animals	9.0	6.2	11.4	10.98**	7.4	10.1	8.8	2.28
Mother harming animals	5.1	4.2	5.8	1.75	4.8	6.1	3.8	2.78
Peer harming animals	63.7	57.3	69.2	20.65***	54.5	65.6	70.5	22.00***
Another adult harming animals	60.9	60.0	61.6	0.36	55.1	60.8	67.4	11.52**
Exposure to domestic violence								
Father verbally insulting mother	39.6	40.3	39.0	0.23	38.6	37.7	45.1	5.19
Mother verbally insulting father	36.1	38.8	33.7	3.69	32.7	35.3	41.8	6.85

Father hitting mother	9.4	8.5	10.2	1.14	9.5	8.1	12.8	5.46
Mother hitting father	4.5	4.6	4.4	0.37	3.8	3.1	8.8	16.88***
Father harming mother	7.7	7.9	7.5	0.10	7.0	6.6	10.3	4.19
Mother harming father	4.7	4.8	4.7	0.01	4.4	3.9	7.3	5.77
Father threatening mother	7.1	7.3	6.9	0.08	6.6	6.5	9.5	3.14
Mother threatening father	5.9	5.8	5.9	0.01	5.9	5.6	7.0	0.79
Father throwing things at mother	5.7	5.8	5.6	0.02	4.4	5.4	8.8	6.90
Mother throwing things at father	5.9	6.1	5.7	0.13	4.1	5.7	9.1	8.06

NOTE: Prevalence is the percentage of children reporting whether parents, themselves, or peers ever committed any of the acts listed. Percentages refer to the proportion of youth in each category reporting different types of violence. Questions are referred to any animal. Due to the sample size, a more strict level for acceptance of significance was adopted. Significant levels are corrected with the Bonferroni test. *n* in each category varies due to missing values.

p* < .01. *p* < .001. ****p* < .0001.

TABLE 2: Relationship Between Father-to-Mother and Mother-to-Father Domestic Violence

<i>Domestic Violence</i>	<i>No Mother-to-Father Violence</i>	<i>Mother-to-Father Violence</i>
No father-to-mother violence (<i>n</i>)	704	61
Row percentage	92.0	8.0
Column percentage	83.9	12.6
Father-to-mother violence (<i>n</i>)	135	424
Row percentage	24.2	75.8
Column percentage	16.1	87.4

NOTE: Different *ns* are due to missing values. $\chi^2 = 641.04$, $df = 1$, $p < .00001$; odds ratio = 36.2.

violence or to animal abuse) are more or less likely than children not exposed to exhibit animal abuse. An odds ratio significantly greater than 1.0 implies that the group of reference is more likely to report that behavior.

Of all students admitting some type of animal abuse (half of the total sample), almost all reported a higher level of exposure to domestic and animal violence, especially for boys. Odds ratios ranged between 1.3 and 6.1; all cases of reported domestic violence were at least two times more likely to be related to animal abuse than were nonviolent cases. Mother violence against animals was six times more strongly associated with direct animal abuse for boys (90.5%) compared with cases in which the children abused animals regardless of the mother doing so (corresponding to 61%). The only nonsignificant association was between animal abuse and exposure to animal abuse by adults.

Multivariate Analyses

Zero-order correlations, presented in Table 4, indicate a linear relationship between animal abuse by youth, exposure to domestic violence, exposure to animal abuse by both parents, and a significant relationship with age and gender, indicating more animal abuse among older pupils and boys. No significant correlations were found for socioeconomic status and parents living together.

Two separate sets of simultaneous multiple regression analyses were conducted (for the exposed and abused group as well as for the exposed-only group) to establish the independent predicting power of the following variables: FVM and MVF, including verbal violence; fathers harming animals; mothers harming animals; peers harming animals; other adults harming animals; age; gender; and socioeconomic status.

TABLE 3: Proportion of Youth Abusing Animals According to Whether They Have Been Exposed to Domestic and Animal Abuse

<i>Type of Violence Exposure</i>	<i>Percentage Youth Abusing Animals (n)</i>		
	<i>All Students</i>	<i>Boys</i>	<i>Girls</i>
Overall domestic violence			
No	44.2 (306)	56.7 (215)	28.5 (85)
Yes	58.2 (351)	69.6 (218)	44.6 (124)
OR	1.7*	1.7*	2.0*
Physical domestic violence, threats			
No	46.8 (495)	58.8 (332)	32.7 (153)
Yes	67.3 (169)	78.9 (105)	52.3 (58)
OR	2.3*	2.6*	2.2*
FVM			
No	44.4 (338)	56.6 (233)	29.8 (99)
Yes	58.7 (326)	70.6 (204)	44.8 (113)
OR	1.9*	1.8*	1.9*
Physical FVM and threats			
No	47.5 (532)	59.7 (355)	33.4 (166)
Yes	67.3 (138)	77.5 (86)	52.8 (47)
OR	2.3*	2.3*	2.2*
MVF			
No	45.6 (380)	58.1 (268)	29.3 (103)
Yes	59.6 (293)	71.2 (173)	47.5 (113)
OR	1.7*	1.8*	2.2*
Physical MVF and threats			
No	48.5 (568)	60.9 (381)	33.7 (174)
Yes	67.5 (106)	75.9 (60)	58.1 (44)
OR	2.2*	2.0*	2.7*
Father harming animal			
No	48.5 (597)	60.3 (383)	35.4 (201)
Yes	74.4 (90)	81.5 (66)	56.8 (21)
OR	3.1*	2.9*	2.4*
Mother harming animal			
No	49.3 (632)	61.0 (409)	35.8 (209)
Yes	79.7 (55)	90.5 (38)	60.0 (15)
OR	4.0*	6.1*	2.7*
Peer harming animal			
No	35.7 (177)	46.9 (104)	26.4 (69)
Yes	59.3 (509)	69.4 (342)	44.7 (155)
OR	2.6*	2.6*	2.2*

(continued)

In the multiple regression analysis for the abused-exposed group (see Table 5), predictors were entered simultaneously in the model and together

TABLE 3 (continued)

Type of Violence Exposure	Percentage Youth Abusing Animals (n)		
	All Students	Boys	Girls
Adult harming animal			
No	46.2 (245)	58.9 (162)	32.2 (78)
Yes	53.7 (445)	64.9 (286)	40.2 (148)
OR	1.3	1.3	1.4

NOTE: FVM = overall father-to-mother violence; MVF = overall mother-to-father violence, including verbal abuse; OR = odds ratios. Differences in *ns* within categories are due to missing values. All significance levels are Bonferroni corrected. Odds ratio is significantly greater than 1.00.

* $p < .05$, one tailed.

accounted for 21% of the total variance of animal abuse, $F(10, 1177) = 31.17$, $p < .0001$. Peers harming animals and being a boy were the best predictors of animal abuse (β s = .21, -.21, respectively), followed by exposure to MVF and mother abuse against animals (β s = .14, .10, respectively) and father abuse against animals and being older (β s = .10, .07, respectively).

The tolerance index for collinearity and the variance inflation factor were assessed and indicated overall no violation of basic assumptions of independence between independent variables in the equation (all tolerance values > .80, variance inflation factor < 1.1), except for exposure to MVF and father violence against animals (tolerance > .50, variance inflation factor < 1.7).

For the exposed-only group, the same eight predicting variables accounted for 23% of the total variance of animal abuse, $F(10, 748) = 22.16$, $p < .0001$. Results indicated that the best predicting variables were being a boy and exposure to peer animal abuse (β s = .22, .22, respectively), followed by exposure to mother and father animal abuse (β s = .20, .06, respectively).

DISCUSSION

This study looked at the effects of types of exposure to interparental violence and animal abuse on the incidence of animal abuse by youth. Findings show that half of all youth aged 9 to 17 taking part in the study had at least once committed some kind of abuse against animals by hitting, tormenting, bothering, harming, or being cruel to them. Boys were two times more likely than girls to commit animal abuse (two thirds of animal abusers were boys and a third were girls). These rates are higher to what Flynn (1999) and Miller and Knutson (1997) found in their studies with college students. When refer-

TABLE 4: Zero-Order Correlations of and Descriptions on Variables Measuring Exposure to Violence, Animal Abuse, and Sociodemographic Characteristics

<i>Variable</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>	<i>10</i>	<i>11</i>	<i>M</i>	<i>SD</i>	<i>Range</i>
1. Age	-.11**	-.06	-.07*	.11**	.06	.05	.07	.13**	.08*	.14**	12.09	2.06	9-17
2. Gender		-.00	-.02	-.05	-.00	-.10**	-.06	-.14**	-.06	-.27**	—	—	0, 1
3. Socioeconomic status			.14**	-.08*	-.10**	-.03	-.05	-.05	-.05	-.02	—	—	1, 2, 3
4. Parents living together				-.20**	-.22**	-.05	-.01	-.05	-.01	-.03	—	—	0, 1
5. MVF					.62**	.19**	.29**	.17**	.16**	.21**	1.18	0.35	1-5
6. FVM						.21**	.26**	.13**	.14**	.21**	1.24	0.48	1-5
7. Father animal abuse							.29**	.11**	.20**	.20**	1.13	0.46	1-5
8. Mother animal abuse								.13**	.12**	.22**	1.08	0.38	1-5
9. Peer animal abuse									.30**	.32**	2.29	1.19	1-5
10. Adult animal abuse										.15**	2.15	1.12	1-5
11. Child animal abuse											1.34	0.56	1-5

NOTE: All significance is Bonferroni corrected. MVF = overall mother-to-father violence; FVM = overall father-to-mother violence, including verbal abuse. Range for gender: 0 = male, 1 = female. Range for socioeconomic factors: 1 = *low*, 2 = *middle*, 3 = *high*. Range for parents living together: 0 = no, 1 = yes. All measures on violence range from 1 = never to 5 = *always*.

* $p < .01$. ** $p < .001$.

TABLE 5: Simultaneous Multiple Regression Analyses for Variables Predicting Animal Abuse by Youth Separately for the Exposed-Abused Group ($n = 1,310$) and the Group Exposed Only to Domestic Violence ($n = 838$)

<i>Variable</i>	<i>B</i>	<i>SE(B)</i>	β
Exposed-abused group			
Age	.02	.00	.07**
Gender	-.23	.03	-.21***
Socioeconomic status	-.01	.02	-.01
Parents living together	.05	.05	.03
Father animal abuse	.12	.03	.10***
Mother animal abuse	.15	.04	.10***
Peer animal abuse	.10	.01	.21***
Adult animal abuse	.00	.01	.01
MVF	.21	.05	.14***
FVM	.01	.04	.01
Exposed-only group			
Age	.00	.01	.04
Gender	-.19	.03	-.22***
Socioeconomic status	-.02	.02	-.04
Parents living together	-.01	.05	-.01
Father animal abuse	.09	.05	.06*
Mother animal abuse	.29	.05	.20***
Peer animal abuse	.08	.01	.21***
Adult animal abuse	-.01	.01	-.03
MVF	.11	.08	.06
FVM	.10	.06	.07

NOTE: FVM = father-to-mother violence; MVF = mother-to-father violence. FVM and MVF also include verbal violence. Gender is coded 0 = boys, 1 = girls; negative B is in the direction of being a boy. Full model statistics for exposed-abused group is $R^2 = .21$, $F(10, 1,177) = 31.17$ and for exposed-only group $R^2 = .23$, $F(10, 748) = 22.16$. Differences in *ns* are due to missing values. * $p < .05$. ** $p < .01$. *** $p < .001$.

ring to violence perpetrated by boys, Flynn indicated that 34.5% of all respondents abused animals compared with 66.5% reported in this study (differences for girls are in the same direction: 9.3% versus 33.5%). Direct comparisons, however, should be handled with caution, because different instruments were used to measure animal abuse. The higher proportion of youth reporting animal abuse in this study could be due to the fact that the P.E.T. Scale includes forms of animal abuse such as tormenting and bothering the animal that are not tackled in the measurement originally developed by Boat (1995) and used by Flynn, which includes only extreme forms of cruelty such as hitting, killing, or sexual violation of animals.

With regard to exposure to interparental violence, just less than half of all respondents reported at least one form of violence (verbal, physical, or

threatening); less than half reported FVM and more than a third reported MVF. When referring to more severe violence (physical and threatening), the percentage drops to one fifth of all youth reporting violent episodes among their parents; in one tenth of all cases, the mother used violence against the father, and in one sixth, the father used violence against the mother. No significant differences emerged between boys and girls, which is not surprising because domestic violence is independent of children's gender; boys and girls are equally as likely to be at risk of exposure to interparental violence. Moreover, there are no theoretical explanations why this difference should occur (Edleson, 1999).

Percentages of reported domestic violence are in line with those found in other nonclinical samples (Straus & Gelles, 1990); youth were classified as exposed even when they reported forms of abuse happening hardly ever, meaning at least once. This might lead to an overestimation of the problem; this choice, however, was made to distinguish youth reporting no violence at all from those reporting even only a few incidents, which in all cases might represent an underestimation because of fear of identification or retaliation. The figures, therefore, are also probably good estimates of the nature of the problem because all attempts were made to ensure anonymity and confidentiality as well as representativeness of the sample.

On the basis of these figures, if we were to estimate the number of 9- to 17-year-old Italian youth that in a given year (2000) had ever been exposed to interparental violence, we would find that almost 2.5 million of them had been exposed to verbal or physical violence. Approximately 800,000 of all youth (400,000 girls and 417,000 boys) would have experienced more severe forms of violence (physical violence and threats) perpetrated by their fathers against their mothers. Regarding animal abuse, we would find that 1.7 million boys and 950,000 girls, aged 9 to 17 years, would ever have committed some kind of abuse against animals. If we were to also include younger children or older adolescents, these figures would increase. These are only estimates based on the national census population and refer to a lifetime period; to have annual estimates, measurements on domestic violence should have included questions referring to the previous 12 months. The sample analyzed, although randomly selected, was recruited only from the central region of Italy. These national estimates, therefore, should be treated with extreme caution.

Results stress the importance of separating those children who are only exposed to domestic violence from those who are exposed and abused. These two groups are similar in predicting animal abuse, but they present some differences. In both cases, the role of modeling is very important; in all groups, violence against animals can be learned from peers or parents. Having peers who are involved in such behavior is among the highest risk factors of direct

abuse against animals. This also applies to children who have mothers and fathers who harm animals, although it is particularly true for the exposed-only youth. In all cases, being a boy is a strong risk factor for animal abuse. Animal abuse by children is affected by exposure to MVF but only in the exposed-abuse group that appeared more (negatively) affected by interparental violence.

As pointed out by Straus and Gelles (1990) and O'Brien et al. (1994), community samples could suffer from an underrepresentation of extreme cases of violence. In this study, participants were given the opportunity to skip sensitive questions on violence if these were too upsetting to them. A total of 3% of respondents who left out most of these questions might have been among those who had the most severe problems of abuse at home, but they were excluded because of the emotional impact they showed when completing the questionnaire. The proportion of refusals, on the other hand, is rather small given the sample size.

Overall, children reported lower levels of MVF than FVM. Cross-sectional data cannot establish whether the violence reported by mothers is reactive rather than proactive responses to initial acts of violence committed by their partners. Mothers using violence against their partners might have done so in self-defense; within-subjects comparisons did indicate that fathers are involved in more frequent forms of violence against their partners. Although in this sample it was not possible to establish any causal direction of this association, it was possible to determine the overall prevalence rate of MVF and FVM as well as the different levels of intensity of violence between father and mother given that respondents could rate their answers from *never happened* to *always*. Results showed that mothers abusing their partners did it less frequently and less severely and might have done it as self-defense.

As with most studies, this one has some limitations. The prevalence rates of animal abuse and interparental violence were based only on self-report measures. Self-reports for measuring animal abuse identify only youth who disclose themselves in the way described in the P.E.T. Scale. Some students might not want to tell about their misbehaviors because it is socially undesirable; in addition, some students who did get involved in abusive and cruel acts against animals might not perceive them as such but rather might describe them as funny things to do among peers. Self-reports, however, remain among the most reliable methods used to disclose youth's victimization, including bullying in school (Baldry, 1998), but they should be validated with other sources. Ideally, information should first be gathered from parents or from social welfare records. This would also help to determine the rate of accuracy between children's and parents' accounts: Different sources might lead to different results (O'Brien et al., 1994).

Another limitation of the study is that child physical abuse was measured with only two items; more reliable and valid instruments should be adopted in future studies including observational data of parenting (Levendosky & Graham-Bermann, 2000).

Future studies should further investigate the (negative) impact of violence perpetuated by mothers on the adjustment of children. Those mothers who are violent against their partners and against animals (even if they are proportionally less in number compared with fathers) constitute among the highest risk factor for children's behavioral maladjustment. These mothers might be victims of violence themselves and may not be able to protect their children and provide them nurture and warmth. As indicated by Wilson (2001), children growing up in this environment might suffer from attachment disturbance that could be diagnosed as reactive attachment disorder, a condition that is more likely to occur in children who are not only abused and neglected but also exposed to violence. According to Reber (1996), animals are often recipients of the uncontrolled rage of children with reactive attachment disorder; therefore, animal abuse could be an indicator or symptom of attachment disorder with the mother.

This study provides strong support for further investigating the relationship of animal abuse and other antisocial behaviors such as bullying in school that could be another significant (early) indicator of maladjustment. Peer pressure is a strong predictor of antisocial behavior. Bullying, offending, and abusing weaker creatures (animal or peers) is strongly associated with the need for affiliation and gaining of social status in children who might suffer from abuse and neglect in their families (Baldry & Farrington, 2000). This research indicates that animal abuse is predicted in youth who have peers who have been abusive to animals. Although it is not possible to establish the direction of this relationship, according to the social learning theory (Bandura, 1973), it is plausible that peers play a significant role in modeling the behavior of those children who are most vulnerable, such as the ones who live in violent homes who are also more inured to violence (Salmivalli, Lagerspetz, Bjorkqvist, Osterdan, & Kaukiainen, 1996).

Animal abuse is part of the cycle of violence; prevention strategies should be broad in their aims and address a full range of youth's violent behaviors, including violence against objects, animals, and people. Children who suffer at home need to be accepted at school; boys, especially, might react to the violence they are exposed to at home by being cruel and tormenting weaker creatures and by joining peers who are bullies in bullying others. Practitioners, social services, and welfare agencies for the protection of children should also work jointly with veterinary clinics to establish a protocol of intervention for referrals of cases of animal abuse (by adults or youth) that might hide

other forms of abuse toward children occurring at home (Ascione & Arkow, 1999).

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